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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,290	08/23/2006	Takeo Tokiai	294806US0PCT	6806
22850	7590	09/18/2008	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			STANLEY, JANE L	
			ART UNIT	PAPER NUMBER
			1796	
			NOTIFICATION DATE	DELIVERY MODE
			09/18/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/590,290	<b>Applicant(s)</b> TOKIAI, TAKEO	
	<b>Examiner</b> JANE L. STANLEY	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 1-9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20060823</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Objections*

**Claims 1-9** are objected to because of the following informalities: claim 1 has “• •” between the formulae and their Roman numeral designations, this appears to be unnecessary. This includes **claims 2-9** as they depend from **claim 1**. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-9** are rejected under 35 U.S.C. 102(b) as being anticipated by Nagao et al. (US No. 6,248,256).

**Regarding claim 1**, Nagao et al. teaches a lubricating oil composition for refrigerators comprising a C1-C8 hydrocarbon refrigerant (instant component A) (abstract; col 2 ln 14-18) and a lubrication base oil comprised of a polyalkylene glycol derivative (instant component B) (abstract; col 2 ln 14-22). Nagao et al. further teaches the polyalkylene glycol base oil of formula  $R^1O-(PO)_a-(EO)_b-R^2$  (col 2 formula I) wherein: each of  $R^1$  and  $R^2$  may be identical or different and represent a hydrogen, a C1-C10 alkyl group, or a C2-C10 acyl group (col 2 ln 24-26); PO represents oxypropylene (col 2 ln 26-27); EO represents oxyethylene (col 2 ln 27-28); and a and b are numbers not less

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than 0 which satisfy the relation  $2 \leq a+b \leq 80$  (see col 2 ln 31-48; col 5 ln 60-62). Nagao et al. further teaches examples where only one of  $R^1$  and  $R^2$  is a hydrogen, and where neither is a hydrogen (col 2 case 2 ln 36-41 and case 3 ln 42-48).

Nagao et al. does not specifically teach that the mixture viscosity of the refrigerating oil composition is  $0.1 \text{ mm}^2/\text{s}$  or more, or  $0.5 \text{ mm}^2/\text{s}$  or more when measured at  $90^\circ\text{C}$  and  $2.3 \text{ MPa}$ . However, Nagao et al. teaches that the lubrication base oil i.e. the polyalkylene glycol base oil, has a kinematic viscosity of  $5\text{-}200 \text{ mm}^2/\text{s}$  at  $100^\circ\text{C}$  (col 6 ln 62-64; see also Table 2 Examples). Nagao et al. is silent as to the pressure at which the measurement(s) was/were obtained. However, as the polyalkylene glycol base oil and hydrocarbon refrigerant of Nagao et al. are the polyalkylene glycol ether and hydrocarbon compound claimed, it is inherent that the polyalkylene glycol base oil and hydrocarbon refrigerant of Nagao et al. would have this property.

Nagao et al. does not specifically teach that the solubility of the refrigerant (instant component A) in the base oil (instant component B) is 40 mass% or less, 2 to 40 mass%, 2 to 30 mass%, or 5 to 25 mass% when measured at  $40^\circ\text{C}$  and  $1.2 \text{ mPa}$ . However, Nagao et al. teaches examples wherein the amount of dissolved n-pentane (hydrocarbon refrigerant A) in the base oil (col 8 ln 55 and 63 to col 9 ln 6; see table 3 Ex 8-12) is 40 mass% or less (note Examples, Table 3) when measured at  $20^\circ\text{C}$  (col 8 ln 64). Nagao et al. is silent as to the pressure at which the measurement(s) was/were obtained. However, as the polyalkylene glycol base oil and hydrocarbon refrigerant of Nagao et al. are the polyalkylene glycol ether and hydrocarbon compound claimed, it is

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inherent that the polyalkylene glycol base oil and hydrocarbon refrigerant of Nagao et al. would have these properties.

**Regarding claims 8-9**, Nagao et al. does not specifically teach the base oil (instant component B) to have a weight average molecular weight of 500 or more or an oxygen atom content of 10 mass% or more. However, as Nagao et al. teaches polyalkylene glycols of the above outlined formula where the values of a and b are not less than 0 and satisfy the relation  $2 \leq a+b \leq 80$  (see col 2 ln 31-48; col 5 ln 60-62), and  $R^1$  and  $R^2$  can be Hydrogen, C1-C10, preferably C1-C6 alkyl (col 6 ln 12-13 ) or C2-C10 preferably C2-C6 acyl (col 6 ln 24-25) groups, there exists a plurality of situations in which the polyalkylene glycols of Nagao et al. will inherently have a weight average molecular weight of 500 or more and/or an oxygen atom content of 10 mass% or more.

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JANE L. STANLEY whose telephone number is (571)270-3870. The examiner can normally be reached on Monday-Thursday, 7:30 am - 5 pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo, Ph.D./  
Supervisory Patent Examiner, Art Unit 1796  
15-Sep-08

JLS